**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

## Endangered and Threatened Wildlife and Plants; Final Rule To Determine Lepidomeda vittata (Little Colorado Spinedace) To Be a Threatened Species With Critical Habitat

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The Service determines *Lepidomeda vittata* (Little Colorado spinedace), a native fish of Arizona, to be a threatened species and determines its critical habitat under the authority contained in the Endangered Species Act (Act) of 1973, as amended. A special rule is proposed that would allow take for certain purposes in accordance with Arizona State laws and regulations. The Little Colorado spinedace historically occurred throughout the upper portions of the Little Colorado River drainage, but is now found only in portions of East Clear, Chevelon, Silver, and Nutrioso Creeks and the Little Colorado River in Coconino, Navajo, and Apache Counties, Arizona. The decline of this species results from habitat alteration and loss due to impoundment, removal of water from the streams, channelization, grazing, road building, urban growth, and other human activities. The decline is also related to the introduction and spread of exotic predatory and competitive fish species, and the use of ichthyotoxins in many of its native streams. In addition, several water development projects have been or are being proposed for the remaining habitat of the species. Remaining Little Colorado spinedace habitat is found on U.S. Forest Service, Bureau of Land Management, State of Arizona, and privately-owned lands. This rule will implement Federal protection provided by the Act for *Lepidomeda vittata*.

**DATE:** The effective date of this rule is October 16, 1987.

**ADDRESSES:** The complete file for this rule is available for public inspection during normal business hours, by appointment, at the U.S. Fish and Wildlife Service Regional Office, 500 Gold Avenue SW., Room 4000 (P.O. Box 1306) Albuquerque, New Mexico 87103.

**FOR FURTHER INFORMATION CONTACT:** Mr. Gerald Burton, Endangered Species Biologist, Endangered Species Office, U.S. Fish and Wildlife Service, Region 2 (see **ADDRESSES** above) 505/766–3972 or FTS 474–3972.

**SUPPLEMENTARY INFORMATION:**

### Background

The Little Colorado spinedace, *Lepidomeda vittata*, was first collected west of the 100th meridian by members of the U.S. Topographical and Geographical Survey (Wheeler 1889). The species was described by E.D. Cope in 1874 from that collection. Cope listed the type locality as the "Chiquito Colorado," which was later defined as "the Little Colorado River somewhere between the mouth of the Zuni River and Sierra Blanca (White Mountain)" (Miller and Hubbs 1960). This fish is a member of the family Cyprinidae and is generally less than 10 centimeters (4 inches) in total length. The species is endemic to the upper portions of the Little Colorado River and to its north flowing, permanent tributaries on the Mogollon Rim and the northern slopes of the White Mountains in eastern Arizona. This naturally restricted historic range has been significantly reduced in the past 50 years by habitat destruction, use of fish toxicants, and the introduction of exotic predatory and competitive fish species.

Populations of the Little Colorado spinedace, like those of many other desert fishes, fluctuate dramatically from year to year. There are many reasons for these fluctuations, and historically they have probably reflected cyclic periods of drought and/or increasd rainfall. However, in more recent history the impact of human populations and their increasing demand for water has adversely affected the normal fluctuations of the spinedace populations. Various uses of water by man have adversely altered spinedace habitat, resulting in accentuated population lows and reduced population highs. Such activities could lead to the extirpation of the Little Colorado spinedace in areas that normally would have sustained populations of the fish through drought periods. Such population fluctuations make it difficult to delineate precisely the current range of the Little Colorado spinedace. Spinedace populations have fallen to extremely low levels several times within the past 25 years. During these population lows, extensive collection efforts may fail to take spinedace at locations that formerly supported healthy populations. These same locations may once again support spinedace populations during good water years. Little Colorado spinedace are presently known from the following locations (Miller 1961, Miller and Hubbs 1960, Minckley 1973, Minckley and Carufel 1967, Miller 1963, Minckley and McCall 1977):

(1) *East Clear Creek and its Tributaries.* Coconino County, Arizona. The spinedace occupies approximately 35 stream miles extendingf upstream from the confluence with Clear Creek to the headwaters near Potato Lake. The stream flows through the Apache-Sitgreaves and Coconino National Forests, with some interspersed privately-owned lands. At present the only tributary known to harbor Little Colorado spinedace is Leonard Canyon at Dines Tank (T.13N., R.12E., Sec.28); however, during periods of higher population levels it is likely that spinedace occupy the other tributaries, particularly near their confluence with East Clear Creek.

(2) *Chevelon Creek.* Navajo County, Arizona. The spinedace occupies approximately 8 miles of stream from the confluence with the Little Colorado River, near Winslow, upstream to Bell Cow Canyon. Lands in this area are privately-owned, with the exception of a small portion, which is the Arizona Game and Fish Department's Chevelon Creek Wildlife Area.

(3) *Silver Creek.* Navajo County, Arizona. The spinedace occupies approximately 20 stream miles of Silver Creek extending from its confluence with the Little Colorado River upstream to its headwaters near the town of Silver Creek. The stream flows primarily on privately-owned lands with only small sections of stream flowing through State and Bureau of Land Management lands.

(4) *Little Colorado River.* Apache County, Arizona. The Little Colorado spinedace is found sporadically throughout approximately 40 miles of permanent stream in this area, from the town of St. Johns upstream to the permanent headwaters in the White Mountains near the town of Greer. Upstream from St. Johns, the river flows through privately-owned lands, then through contiguous State lands, and the through additional privately-owned lands around the town of Springerville. The upper end of the river flows through the Apache-Sitgreaves National Forest with only a few privately-owned inholdings.

(5) *Nutrioso Creek.* Apache County, Arizona. The spinedace occupies approximately 12 stream miles from the confluence with the Little Colorado River upstream to near the town of Nutrioso. The stream flows through privately-owned lands around the towns of Springerville and Nutrioso; however, approximately 5 miles of the stream flows through the Apache-Sitgreaves National Forest, and a small portion flows through State-owned lands.

The Little Colorado spinedace inhabits very small to moderate sized streams and is characteristically found in pools with water flowing over fine gravel and silt-mud substrates. During periods of drought spinedace are believed to persist in springs and intermittent streambed pools; and during flooding they tend to distribute themselves throughout the stream. The spinedace spawns primarily in early summer, but continues at a reduced level until early fall (Minckley 1973).

The Colorado spinedace was included in the Service's "Review of Vertebrate Wildlife for Listing as Endangered or Threatened Species" published in the Federal Register on December 30, 1982 (47 FR 58454–60). It was considered a category 1 species, indicating that the Service had substantial biological information to support a proposal to list as endangered or threatened. On April 12, 1983, the Service received a petition from the Desert Fishes Council to list the Little Colorado spinedace. This petition was found to contain substantial scientific or commercial information, and a notice of finding was published on June 14, 1983 (48 FR 27273). After a review and evaluation of the petition's merits, the Service found that the petitioned action is warranted, and a notice of the finding that the species warranted listing was published in the Federal Register on July 13, 1984 (49 FR 28583). A proposed rule to list *Lepidomeda vittata* was published on May 22, 1985 (50 FR 21095).

*Lepidomeda vittata* is listed by the State of Arizona as a threatened species, Group 3 (Arizona Game and Fish Commission 1982), which are those species ". . . whose continued presence in Arizona could be in jeopardy in the foreseeable future."

**Summary of Comments and Recommendations**

In the May 22, 1985, proposed rule (50 FR 21095) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice was published in the *White Mountain Independent*, Show Low, Arizona, on June 18, 1985, that invited general public comment. Fifteen letters of comment were received. No public hearing was requested or held.

Comments in opposition to the listing were received from Phelps Dodge Corporation. Both the U.S. Forest Service and the Arizona Department of Transportation support the listing but oppose the critical habitat designation.

The Arizona State Clearinghouse had no comments on the proposal. Letters in support of the listing and designation of critical habitat were received from The Nature Conservancy, Arizona Game and Fish Department, the Desert Fishes Council, Dr. R.R. Miller, and Mr. C.O. Minckley. Economic Data were provided by the U.S. Bureau of Reclamation, Federal Highways Administration, Environmental Protection Agency, Arizona Game and Fish Department, U.S. Forest Service, and Arizona Department of Transportation.

The Nature Conservancy supported both the listing and designation of critical habitat and recommended that the watersheds for the stream segments indentified as critical habitat be included in that designation. The Service feels that the inclusion of the entire watershed in a critical habitat designation for this fish is not justified biologically. The designation of critical habitat is used for those areas that are crucial to the continued survival of a species and normally includes areas occupied either permanently or temporarily by the species. Although the Service has authority, under section 3(5)(A)(ii) of the Act, to designate as critical habitat areas that are not occupied by the species, the best available scientific data do not substantiate the entire watershed, as critical to the survival of the spinedace. However, the Service recognizes the importance of the watersheds in maintaining quality habitat for the spinedace, and the Service believes that any Federal activities in the watersheds that would adversely affect the critical habitat, as designated in the rivers, would be subject to section 7 of the Endangered Species Act. If it should later appear that buffer zones in the watershed are essential to the conservation of the species and, therefore, should be designated as critical habitat, then the Service will propose appropriate revisions to the critical habitat.

Phelps Dodge Corporation expressed opposition to the proposed rule for the following reasons: (1) It would jeopardize the water supply to its Morenci operations; (2) it may prevent any significant future developments or modifications of the few streams that exist in Arizona and on some in New Mexico; and (3) it should have been preceded by an Environmental Impact Statement and a Regulatory Impact Analysis. The Service response is as follows: (1) Existing operations are subject to the requirements of section 7(a)(2) of the Act if Federal agency involvement continues with respect to the project. Ongoing projects subject to the continuing exercise of Federal discretion must comply with section 7(a)(2) at all stages of project planning and implementation. As noted in *TVA v. Hill*, 437 U.S. 153 (1978), "it is clear Congress foresaw that section 7 would, on occasion, require agencies to alter ongoing projects in order to fulfull the goals of the Act" 437 U.S. at 186 (footnote omitted). Critical habitat designation is not expected to affect existing operations; however, if Federal involvement is required for these operations to continue they would be subject to the requirements of section 7(a)(2) of the Act. (2) Presently, approximately 44 miles of stream in Arizona, which represent a very small percentage of the States' entire surface drainage, are being proposed for critical habitat designation. Critical habitat designation does not prevent all development or modification, but prohibits Federal actions that are likely to result in the destruction or adverse modification of critical habitat. Thus, any activity funded, authorized or conducted by the Federal government must be planned to avoid the destruction or adverse modification of critical habitat. (3) On October 25, 1983, on the basis of recommendations from the Council on Environmental Quality and on a decision by the Sixth Circuit Court of Appeals, the Service published a notice in the Federal Register (48 FR 49244; October 25, 1983) stating that Environmental Assessments would no longer be prepared for regulations adopted pursuant to section 4(a) of the Endangered Species Act. It has been the Service's past experience that when National Environmental Policy Act (NEPA) environmental assessments were prepared for section 4(a) actions, all resulted in a finding of no significant impact. Statutory deadlines for listing a species and declaring its critical habitat, as well as the statutory limits on the Service's discretion, make preparation of an Environmental Impact Statement (EIS) both impractical and unnecessary. Preparation of an EIS would not be consistent with the purposes and policies of either the Act or NEPA, which basically center on environmental protection. The Service prepares both a determination of effects and an economic analysis document on each critical habitat rule in compliance with Executive Order 12291 and section 4(b)(2) of the Act, respectively. These documents include an analysis of the best information available on economic or other impacts posed by the designation of critical habitat and an

analysis of any alternative critical habitat boundaries. When added to the administrative record generated through the public comment period of a proposed rule, this economic analysis should provide, at the very least, the functional equivalent of NEPA documentation, which would satisfy the information-gathering, analytical, and environmental protection goals of the Act. In further response to this comment, the Service notes that Regulatory Impact Analyses (RIA) are only required for "major rules" as defined by Executive Order 12291. Because the Department's Determination of Effects for this rule indicates that, after an analysis of impacts, the critical habitat rule is not major, no RIA is required.

The Arizona Game and Fish Department supported both the listing and the designation of critical habitat. The Department did, however, question the impact that stocking of rainbow trout into portions of the Little Colorado River, including extant spinedace habitat, could have upon the species. The Department further pointed out that it has not been demonstrated that rainbow trout prey extensively on spinedace. Arizona also requested that future use of piscicides not be ruled out in these waters. The Service responds that stocking of "put and take" size rainbow trout into habitats occupied by spinedace does not have a direct impact on the species since rainbow trout of that size are primarily insectivorous and most are caught by anglers soon after being stocked. Competition for food and space may occur briefly, but principally during the times that spinedace metabolism is low. A far greater threat to the spinedace comes from the brown trout, which is not only piscivorous, but is also capable of successfully reproducing and establishing itself in these streams. Future use of piscicides in streams supporting Little Colorado spinedace would be evaluated and if long-term benefits accrued to the spinedace which outweighed short-term impacts, use of piscicides would be considered. If an action of this type were to be conducted on Federal lands, or was to be done by the State using Federal funds, section 7 consultation would be required.

The U.S. Forest Service supported the listing of the spinedace, but questioned the need for designating critical habitat for the species. The Fish and Wildlife Service responds that the designation of critical habitat for a listed species places a special emphasis upon those areas and notifies Federal agencies of their obligation to ensure that no action they authorize, fund, or carry out is likely to result in the destruction or adverse modification of critical habitat. The U.S. Forest Service also questioned the designation of intermittent reaches of stream as critical habitat. The Service responds that critical habitat does not have to be continually occupied by the species but may be used by the species during certain times of the year. Thus, a gravel bar that is dry during fall and winter may be used by spawning fish during spring and summer. In determining what areas are critical habitat, consideration is given to those physical and biological features that are essential to the conservation of a given species and that may require special management considerations or protection. Such requirements include sites for breeding, reproduction and rearing of offspring. Another question raised by the U.S. Forest Service involved the width of critical habitat outward from the stream and why only the stream was proposed as critical habitat. The Service responds that a riparian buffer zone is sometimes included in the critical habitat to indicate the importance of the stream bank ecosystem to the survival of the species and that actions along the stream banks can affect the continued existence of the fish. Because of the steep, canyon-like banks of much of the spicedace habitat, inclusion of riparian zones in the critical habitat was not included. (Also see the Service answer to the Nature Conservancy.) The U.S. Forest Service also questioned why the portion of Nutrioso Creek that flows through its land was singled out as critical habitat when the spinedace is found over a much broader range in the creek. The Service responds that only a small population of spinedace is found outside of the portion of Nutrioso Creek not fronted by U.S. Forest Service land, and that maximum protection for the species can be achieved by designating the U.S. Forest Service portion of the stream as critical habitat. The U.S. Forest Service also felt that time and effort spent gathering economic information for provision to the Service could be better used on other endeavors. The Service responds that the Act and other laws require the Service to prepare various economic and other impact analyses of critical habitat designations. The Service attempts to acquire the best available data when conducting these analyses. The Service recognizes and appreciates the time and effort spent by the U.S. Forest Service and other agencies in collecting and preparing this information.

The Arizona Department of Transportation requested that all bridge crossings be excluded from designation of critical habitat. The Service responds that the Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species concerned. The Economic Analysis prepared by the Service did not show the economic benefits of exclusion of the bridge crossings, or any other area being considered, to outweigh the benefits of designating the area as critical habitat. Furthermore, use of private, State, or local funds for activities which do not require a Federal permit is not restricted by the critical habitat designation. The Service will assist the Arizona Department of Transportation in developing a workable program which involves both protection of the spinedace and adequate and safe highway facilities for the public.

Mr. C. O. Minckley suggested that golden shiners were only a problem in the upper portion of Chevelon Creek and are far removed from the lower portion which is being designated as critical habitat. The Service has changed the rule to reflect this recommendation. He also suggested that the upper end of the Chevelon Creek critical habitat stop at Bell Cow Canyon. This recommendation was also incorporated into the final rule. Lastly, he suggested the Nutrioso Creek critical habitat be extended upstream to the town of Nutrioso and the reach of the Little Colorado River from Saint Johns to Lyman Reservoir be included in the critical habitat designation. The Service responds that suggested stream reaches were not included in the original proposal and have not been thoroughly sampled. Future efforts will include sampling the suggested reaches to determine if they contain those constituent elements essential to the conservation of the spinedace and which may require special management considerations or protection. If the suggested reaches fit the criteria of critical habitat, a proposal to revise the critical habitat designation can be published at a later date.

The Federal Highway Administration (FHA) noted that the map for the Nutrioso Creek portion of cirtical habitat was in error. Work completed on U.S. 666 in 1982 eliminated two of the three creek crossings below Nelson Reservoir. The Service responds that the map for critical habitat in this final rule had

been changed accordingly. The FHA also noted that a future upgrading project near the town of Nutrioso is planned; this is upstream from the critical habitat and no problems are expected.

**Summary of Factors Affecting the Species**

After a thorough review and consideration of all information available, the Service has determined that the Little Colorado spinedace should be classified as a threatened species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 et seq.) and regulations (50 FR Part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the Little Colorado spinedace (*Lepidomeda vittata*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Much of the historic habitat of the Little Colorado spinedace has been adversely modified or destoryed by human activities. One of the most detrimental of these has been the impoundment of the rivers and streams. The spinedace is a stream dwelling fish and is unable to exist in reservoirs. There are now approximately 150 impoundments in the Little Colorado basin, ranging in size from small stock tanks to reservoirs of up to 1,400 surface acres. Except for a few of the small stock tanks located on streams, these reservoirs are uninhabitable by the spinedace. In many areas, these reservoirs have inundated and thus destroyed previously occupied spinedace stream habitat. In addition, these impoundments have often resulted in the total or partial dewatering of long downstream reaches of stream, resulting in the destruction of spinedace habitat. The presence of these reservoirs also adversely affects the continued existence of the spinedace upstream and downstream from the reservoir through predation by, and competition with, exotic fish species.

Human uses including riparian destruction, urban growth, mining, timber and pulpwood harvest, road construction, livestock grazing, and other watershed disturbances have also been detrimental to spinedace habitat. The precise effects of many of these uses on fish populations, particularly spinedace, are difficult to define. However, these uses have resulted in many changes to the streams used by the Little Colorado spinedace such as dewatering, erosion and channel downcutting, chemical and organic pollution, alteration of flow regimes, alteration of stream temperature, and excessive siltation. In the 1880's, the Little Colorado River above Grand Falls was a perennial stream with extensive riparian areas of grasses, cottonwoods, and willows. Extensive swamps and marshy areas existed above the town of Winslow (Miller 1961). The river now has perennial flow only in the uppermost of 10 to 15 percent of its length.

Future threats to the remaining habitat of the Little Colorado spinedace come from the same human uses that have resulted in past habitat alteration and destruction. There are several proposed new water projects for the area, and additional new projects continue to be proposed as water demand increases. Wilkin's Dam, at the confluence of Clear and East Clear Creeks, is a proposed Bureau of Reclamation project, a part of the larger Mogollon Mesa project which would also include a new dam on upper Chevelon Creek. Wilkin's Dam would inundate approximately 8 miles of stream and significantly decrease downstream flows, while contributing significantly to the problem of exotic predatory and competitive fishes in East Clear Creek (see Factors C and E). This project is presently inactive and is not expected to be reactivated in the near future. In 1977, the Arizona Public Service Corporation did test drilling to tap groundwater in the Chevelon Creek drainage. This water was to be used for their Cholla Lake generating facility near Holbrook, Arizona; however, the quality of the water found in the test drilling was too poor for their needs. Additionally, the Arizona Game and Fish Department has identified nine potential sites within existing spinedace range that they are considering for future recreational impoundments.

Much of the remaining Little Colorado spinedace habitat is afforded some protection by inaccessibility or by public ownership of the lands. The East Clear Creek population is located on the Coconino and Apache-Sitgreaves National Forests; portions of the Little Colorado River, Silver and Nutrioso Creeks populations are also located on the Apache-Sitgreaves National Forest, and the lower portion of Chevelon Creek flows through a rugged canyon in relatively roadless country. As the human population of the adjacent areas increases, and the demand for water and recreational access increases, those spinedace populations on public or presently inaccessible lands will be subjected to mounting pressures for water projects, road construction, and other development.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* There is no evidence that the Little Colorado spinedace is overused for any of these purposes.

C. *Disease or predation.* Predation by exotic piscivorous fish has been shown to be a contributing factor in the decline of many native southwestern fishes, and has undoubtedly been a major factor in the decline of the Little Colorado spinedace. The spinedace was historically associated with few, if any, fish predators. Of the native fish species of the Little Colorado River, only the roundtail chub (*Gila robusta*) was a potential predator on spinedace. However, in the past 100 years, several exotic predatory fish species have been introduced into Little Colorado spinedace habitats. These species include black bullhead (*Ictalurus melas*), channel catfish (*Ictalurus punctatus*), yellow bullhead (*Ictalurus natalis*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*), and brown trout (*Salmo trutta*). The continuing adverse impact of these predators on the Little Colorda spinedace, and the possibility of further introduction and spread of predatory fish is a significant threat to the existence of the spinedace. The construction of reservoirs in or near spinedace habitat exacerbates the threat of exotic fish introductions and the spread of predatory fishes. This occurs because reservoirs are desirable habitat for many predatory game fishes, many of which are purposely introduced for recreational purposes. The introduction of such fish into these reservoirs allows and encourages their spread throughout the range of the Little Colorado spinedace. Additionally, parasites introduced with such exotic fish may also adversely affect the spinedace.

D. *The inadequacy of existing regulatory mechanisms.* The State of Arizona lists this species under Group 3 of the Threatened Wildlife of Arizona. Group 3 includes, "Species or subspecies whose continued presence in Arizona could be in jeopardy in the foreseeable future" (Arizona Game and Fish Commission 1982). Under this designation, taking of the Little Colorado spinedace is regulated and is allowed only under a collecting permit or by licensed angling. However, no protection of the habitat is included in such a designation and no management plan exists for this species.

E. *Other natural or manmade factors affecting its continued existence.* The

introduction of exotic fishes into the habitat of the Little Colorado spinedace poses a major threat to the spinedace from competitive interactions as well as from predation. In upper Chevelon Creek, golden shiners were present in such large numbers in 1965 that the Arizona Game and Fish Department treated the stream with a piscicide (fish toxicant) in an unsuccessful attempt to eradicate them. This treatment was considered necessary because the golden shiner competes with young game fish, particularly trout (Minckley 1973). Since the Little Colorado spinedace is "troutlike in its behavior and habitat requirements" (Miller 1963), it is quite likely that the golden shiner is also a significant competitor with the Little Colorado spinedace (Minckley and Carufel 1967). The possibility of the further introduction of other competitive species, particularly the red shiner (*Notropis lutrensis*) into spinedace habitats is an additional threat to the Little Colorado spinedace. The red shiner has been shown to displace the spikedace (*Meda fulgida*) in portions of the Gila River system (Minckley 1973). These shiners are widespread in Arizona. The red shiner is commonly used for bait, thus increasing the probability of its eventual introduction into Little Colorado spinedace habitat also increases that probability because of the increased use of bait in the fishery which develops in such reservoirs. Other exotic fishes, particularly cyprinids such as fathead minnow and Rio Grande killifish, may also be a competitive threat to the Little Colorado spinedace, and it has been found that the spinedace is generally rare or absent where exotic fish other than trout are present.

Another important factor in the decline of the Little Colorado spinedace has been the use of piscicides (fish toxicants) in the streams of the Little Colorado River drainage. Most of the major game fish streams of the drainage have been subjected to poisoning, with such chemicals as rotenone and toxaphene, in generally unsuccessful attempts to rid these streams of "trash" fish such as carp, suckers, chubs, and shiners and thereby improve the streams for game fish (Miller 1963). The Little Colorado River was treated from Lyman Reservoir downstream for approximately 10 miles in 1951, and Chevelon Creek was treated twice in 1965 (Mickley and Carufel 1967), and again several years later. These treatments undoubtedly significantly reduced both the populations and range of the Little Colorado spinedace.

No estimate has been made of Little Colorado spinedace population sizes; however, it is well known that their numbers fluctuate markedly. Because of this, threats to the spinedace must be analyzed as to their impact at the lowest population levels. Habitat alterations which may not significantly affect populations at moderate or high levels may be disastrous at low population levels, and could lead to extirpation of the species.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list the Little Colorado spinedace as threatened. Threatened status seems appropriate because of the severely reduced range of the species, and because of the many threats to the fish and its remaining habitat. If this species is not listed, it could reasonably be expected to become endangered within the foreseeable future and thus not listing would be a violation of the Act's intent. Since the species is still extant in several locations and the threats to the species are generally localized, the species is not in danger of extinction at this time and thus endangered status is not appropriate.

**Critical Habitat**

Critical habitat, as defined by section 3 of the Act means: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrently with the determination that a species is endangered or threatened. Critical habitat is being designated for the Little Colorado spinedace to include the following:

(1) *East Clear Creek, Coconino County, Arizona;* approximately 18 miles of stream extending from the confluence with Leonard Canyon upstream to the Blue Ridge reservoir dam, and approximately 13 miles of stream extending from the upper end of Blue Ridge Reservoir upstream to Potato Lake.

(2) *Chevelon Creek, Navajo County, Arizona;* approximately 8 miles of stream extending upstream from the confluence with the Little Colorado River to the confluence of Bell Cow Canyon.

(3) *Nutrioso Creek, Apache County, Arizona;* approximately 5 miles of stream from the Apache-Sitgreaves National Forest boundary upstream to the Nelson Reservoir dam.

These stream portions were chosen for critical habitat designation because they presently support healthy self-perpetuating populations of the Little Colorado spinedace. They provide all of the ecological, behavioral, and physiological requirements necessary for the survival of the spinedace. However, due to the extreme fluctuations which Little Colorado spinedace populations exhibit, these areas may not necessarily support the most stable and healthy populations of spinedace at any given time in the future. At present, the Silver Creek and Little Colorado River populations are spotty and/or difficult to locate, but this situation may change with periodic population fluctuations. This designation of critical habitat is based on the best available information. If new information demonstrates additional critical habitat areas are necessary for this species, they must be subject to a new **Federal Register** proposal.

Section 4(b)(8) of the Act requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public or private) that may adversely modify such habitat or may be affected by such designation. Any activity that would deplete the flow, lessen the amount of minimum flow, or significantly alter the natural flow regime of East Clear, Chevelon, or Nutrioso Creeks could adversely impact the critical habitat. Such activities include, but are not limited to, excessive groundwater pumping, impoundment, and water diversion. Any activity that would extensively alter the channel morphology of East Clear, Chevelon, or Nutrioso Creeks could adversely affect the critical habitat. Such activities include, but are not limited to, channelization, impoundment, excessive sedimentation from logging, grazing and other watershed disturbances, and riparian vegetation destruction. Also, any activity that would extensively alter the water chemistry of East Clear, Chevelon, or Nutrioso Creeks could adversely affect the critical habitat. Such activities include, but are not

limited to, release of chemical or biological pollutants at a point source or by dispersed release.

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of designating a particular area as critical habitat. The Service has evaluated the proposed critical habitat designation for *Lepidomeda vittata*, taking into consideration all additional comments received. Biological information was provided that warranted adjusting the boundaries of the critical habitat designation for Chevelon Creek.

**Available Conservation Measures**

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required by Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7 (a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

At present, no known Federal activities would be affected by this proposal. On East Clear Creek, the Little Colorado spinedace habitat is primarily on the Coconino and Apache-Sitgreaves National Forests. The Forest Service does not expect any significant impact on management of this area as a result of this proposal since the Little Colorado spinedace is already one of their emphasized species. Wilkin's Dam on Clear Creek is a Bureau of Reclamation project and section 7 consultation will be required if that project is ever reactivated (it is currently in inactive status). On Chevelon Creek, the majority of the land is privately-owned, and is used for livestock grazing. Other activities that might be affected by this proposal could include future water development projects if they are federally funded or authorized. At the lower end of Chevelon Creek, there is a small portion of land owned by the Arizona Game and Fish Department, which is the Chevelon Creek Wildlife Area. No effects from this proposal are expected on its management since it is already being managed for wildlife values and upon listing would include the spinedace. On the privately-owned lands on Silver and Nutrioso Creeks, and the Little Colorado River, no effect is expected from this proposal. It is possible that future water development projects on these lands might be affected if such projects have any Federal involvement. On portions of those streams on the Apache-Sitgreaves National Forest no effect is expected.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

The above discussion generally applies to threatened species of fish or wildlife. However, the Secretary has the discretion, under section 4(d) of the Act, to issue such special regulations as are necessary and advisable for the conservation of a threatened species. The State of Arizona presently regulates direct taking of the Little Colorado spinedace through the requirement of State collecting permits. Since the primary threat to this species stems from habitat disturbance and modification, and not from direct taking of the species or from commercialization, the Service concludes that the State's collecting permit system is more than adequate to protect the species from excessive taking, so long as such takes are limited to: educational purposes, scientific purposes, the enhancement of the propagation or survival of the species, zoological exhibition, and other conservation purposes consistent with the Endangered Species Act. A separate Federal permit system is not required to address the current threats to the species. Therefore, a special rule for the Little Colorado spinedace is proposed that will allow taking to occur for the above stated purposes without the need for a Federal permit, if a State collecting permit is obtained and all other State wildlife conservation laws and regulations are satisfied. In relying upon the State's permitting system, however, and not establishing separate Federal permitting procedures, the Service is issuing a final rule that in effect, precludes any further application of piscicides that would result in the taking of the Little Colorado spinedace, unless it is in accordance with an approved conservation plan for the species. The special rule also acknowledges the fact that incidental take of the species by State-licensed recreational fishermen is not a significant threat to this species. Therefore, such incidental take will not be a violation of the Act if the fisherman immediately returned the taken fish to its habitat. It should be recognized that any activities involving the taking of this species not otherwise enumerated in the special rule are prohibited. Without this special rule, all of the prohibitions under 50 CFR 17.31 would apply. The Service believes that this special rule will allow for more efficient management of the species, thereby facilitating its conservation. For these reasons, the Service has concluded that this regulatory measure is necessary and advisable for the conservation of the Little Colorado spinedace.

**National Environmental Policy Act**

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

**Regulatory Flexibility Act and Executive Order 12291**

The Department of the Interior has determined that designation of critical habitat for this species is not a major rule under Executive Order 12291 and certifies that this designation will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). These determinations are based on a Determination of Effects

that is discussed below and available at the Region 2 Office of Endangered Species, U.S. Fish and Wildlife Service (see ADDRESSES).

The Service has prepared an economic analysis and believes that economic and other impacts of this critical habitat designation on the Forest Service are not significant in the foreseeable future. The economic impact analysis concluded that Federal program costs would be minimal and would be incurred as the cost of planning to prevent introduction of exotic species and adverse effects from logging activities. No economic impacts on individuals or State and local governments were identified, and no impact on the national or regional economy, commerce, or employment were discerned.

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### Author

The author of this final rule is Gerald L. Burton, Endangered Species Biologist, U.S. Fish and Wildlife Service, Albuquerque, New Mexico (505/766–3972 or FTS 474–3972). Status information was provided by C.O. Minckley, Flagstaff, Arizona.

### List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

### Regulations Promulgation

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

## Part 17—[AMENDED]

1. The authority citation for Part 17 continues to read as follows:

**Authority:** Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. Amend § 17.11(h) by adding the following, in alphabetical order under "Fishes" to the List of Endangered and Threatened Wildlife:

**§ 17.11 Endangered and threatened wildlife.**

* * * * *

(h) * * *

| Species | | Historic range | Vertebrate population where endangered or threatened | Status | When listed | Critical habitat | Special rules |
|---|---|---|---|---|---|---|---|
| Common name | Scientific name | | | | | | |
| FISHES | | | | | | | |
| Spinedace, Little Colorado | *Lepidomeda vittata* | U.S.A. (AZ) | Entire | T | 287 | 17.95(e) | 17.44(t) |

3. Add the following paragraph (t) as a special rule to § 17.44

**§ 17.44 Special rules—Fishes.**

* * * * *

(t) Little Colorado spinedace (*Lepidomeda vittata*).

(1) No person shall take this species, except in accordance with applicable State Fish and Wildlife conservation laws and regulations in the following instances: for educational purposes, scientific purposes, the enhancement of propagation or survivial of the species, zoological exhibition, and other conservation purposes consistent with the Act.

(2) Any violation of applicable State fish and wildlife conservation laws or regulations with respect to the taking of this species is also a violation of the Endangered Species Act.

(3) No person shall possess, sell, deliver, carry, transport, ship, import, or export, by any means whatsoever, any such species taken in violation of these regulations or in violation of applicable State fish and wildlife conservation laws or regulations.

(4) It is unlawful for any person to attempt to commit, solicit another to commit, or cause to be committed, any offense defined in paragraphs (t) (1) through (3) of this section.

* * * * *

4. Amend § 17.95(e) by adding critical habitat of the Little Colorado spinedace in the same alphabetical order as the species occurs in § 17.11(h).

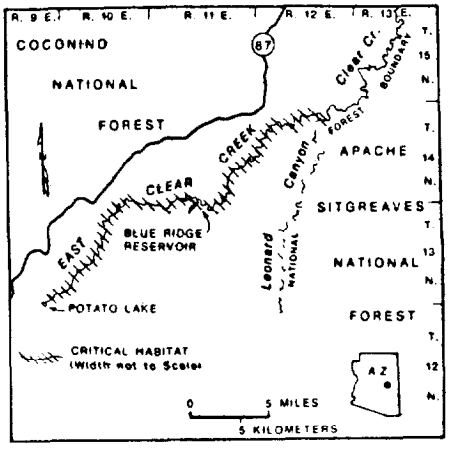
**§ 17.95 Critical habitat—Fish and wildlife.**

(e) * * *

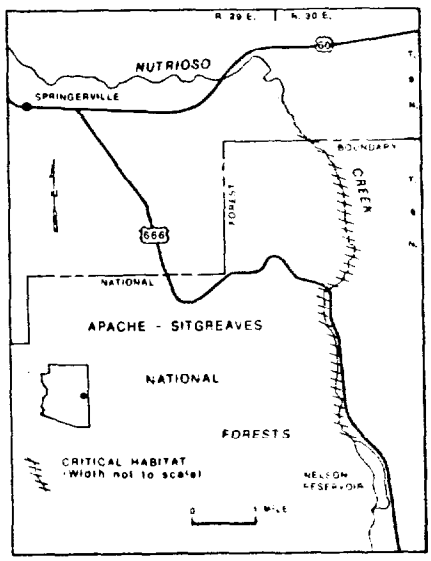
LITTLE COLORADO SPINEDACE (*Lepidomeda vittata*)

Arizona:

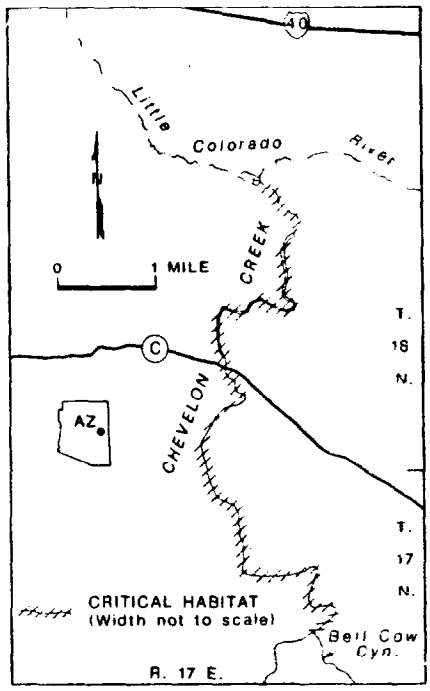
1. *Coconino County.* East Clear Creek; approximately 18 miles of stream extending from the confluence with Leonard Canyon (NE ¼ Sec. 11 T14N R12E) upstream to the Blue Ridge Reservoir dam (SE ¼ Sec. 33 T14N R11E), and approximately 13 miles of stream extending from the upper end of Blue Ridge Reservoir (east boundary SE ¼ Sec. 36 T14N R10E) upstream to Potato Lake (NE ¼ Sec. 1 T12N R9E).



2. *Navajo County.* Chevelon Creek; approximately 8 miles of stream extending from the confluence with the Little Colorado River (NW¼ Sec. 23 T18N R17E) upstream to Bell Cow Canyon (SE¼ of the SW¼ Sec. 11 T17N R17E).




3. *Apache County.* Nutrioso Creek; approximately 5 miles of stream extending from the Apache-Sitgreaves National Forest boundary (north boundary Sec. 5 T8N R30E) upstream to the Nelson Reservoir dam (NE¼ Sec. 29 T8N R30E).




Constituent elements, for all areas of critical habitat, include clean, permanent flowing water, with pools and a fine gravel or silt-mud substrate.

* * * * *

Dated: July 21, 1987.

**Susan Recce,**

*Acting Assistant Secretary for Fish and Wildlife and Parks.*

[FR Doc. 87-21285 Filed 9-15-87; 8:45 am]

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